REMARKS

In response to the Office Action dated May 6, 2004, claims 1, 8, 18, 21 and 29 have been amended and claim 16 has been canceled. Therefore, claims 1-13, 15 and 17-30 are now in the case. Reexamination and reconsideration of the amended application are requested.

Section 103(a) Rejections

The Office Action rejected claims 1-9, 15-20 and 25-30 under 35 U.S.C. § 103(a) as being unpatentable over Ippolito et al. (U.S. Patent No. 6,072,522) in view of Baker (U.S. Patent No. 5,686,957) and McCall et al. (U.S. Patent No. 6,002,430).

Regarding independent claim 1, the Office Action contended that Ippolito et al. disclose all elements of the Applicants' claimed invention except for specifically teaching "to use audio analysis including a microphone-array sound source localization technique to alleviate camera view switching delays." Regarding independent claim 8, the Office Action contended that Ippolito et al. disclose all elements of the Applicants' claimed invention except for specifically teaching "to switch instantaneously between views of event participants in response to the choice." Regarding independent claim 18, the Office Action contended that Ippolito et al. disclose all elements of the Applicants' claimed invention except for specifically teaching "to switch instantaneously between views of event participants by presenting a desired portion of the image as selected by the viewer." Regarding independent claim 29, the Office Action contended that Ippolito et al. disclose all elements of the Applicants' claimed invention except for specifically teaching the missing element as set forth above for claim 8. However, the Office Action maintained that Baker discloses all of these elements. Furthermore, for each of claims 1, 8, 18 and 29, the Office Action stated that the combination of Ippolito et al. and Baker do not teach "the camera system comprising a seamless omni-directional camera system that provides a seamless omni-directional image." However, the Office Action maintained that McCall et al. "teaches a camera system for forming a seamless spherical image, i.e., a seamless omni-directional image . . .." Therefore, the Office Action maintained that it would have been obvious to a person of ordinary skill in the art at the time the invention was made "to

modify the combination of Ippolito and Baker in using the seamless omni-directional camera system, as per teaching of McCall, because it improves the automated event presentation system by providing the maximum amount of viewing coverage without the bulk of additional cameras."

In response, the Applicants respectfully traverse these rejections based on the amendments to claims 1, 8, 18 and 29 and the following legal and technical analysis. In general, the Applicants submit that the combination of Ippolito et al., Baker and McCall et al. is lacking at least one element of the Applicants' claimed invention. More specifically, combination of Ippolito et al., Baker and McCall et al. does not disclose, either explicitly or implicitly, the material claimed feature of using both audio and video tracking techniques to track multiple event participants simultaneously.

Further, the combination of Ippolito et al., Baker and McCall et al. fails to appreciate the advantages of this claimed feature. In addition, there is no technical suggestion or motivation disclosed in Ippolito et al., Baker and McCall et al. to define this claimed feature. Thus, the Applicants submit that the combination of Ippolito et al., Baker and McCall et al. cannot make obvious the Applicants' claimed feature mentioned above with regard to claims 1, 8, 18 and 29.

Audio processing techniques include the microphone-array sound source localization technique, as discussed above. Video processing techniques include head tracking that uses motion detection and skin color techniques (specification, paragraph 0048, lines 1-2). Using a combination of audio and video tracking techniques to track event participants yields better tracking and identification than audio tracking alone. This means that the audio tracking technique can be used to check the video tracing technique and vice versa. For example, false positives are rejected, because if audio tracking detects a speaker but it is only sound reflecting off the walls, the video tracking will show no speaker at that location and will not switch camera views. Moreover, using both audio and video tracking ensures that the speaker detection has only a few degrees of error. Head tracking can center the speaker's head within view and overcome any error in audio

processing techniques.

To make a prima facie showing of obviousness, all of the claimed features of an Applicant's invention must be considered, especially when they are <u>missing</u> from the prior art. If a claimed feature is <u>not disclosed</u> in the prior art and has <u>advantages not appreciated</u> by the prior art, then no prima facie showing of obviousness has been made. The Federal Circuit Court has held that it was an error not to distinguish claims over a combination of prior art references where a material limitation in the claimed system and its purpose was not taught therein. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Moreover, as stated in the MPEP, if a prior art reference does not <u>disclose, suggest</u> or provide any <u>motivation</u> for at least one claimed feature of an Applicant's invention, then a prima facie case of obviousness has not been established (MPEP § 2142).

<u>Amended Independent Claims 1, 8, 18 and 29</u>

Amended independent claim 1 of the Applicants' claimed invention includes an automated event presentation system for capturing and viewing an event having event participants. The system includes an omni-directional camera system that provides a seamless omni-directional image of the event and that automatically tracks event participants <u>simultaneously</u> to determine the event participants that are speaking using audio analysis including a microphone-array sound source localization technique to alleviate camera view switching delays and films the event. The system further includes an automated online broadcasting system including a <u>tracker module</u> that controls and uses the omni-directional camera system and <u>video tracking techniques</u> to monitor and <u>keep track of</u> each of the tracked event participants simultaneously, and broadcasts the event. The system also includes a viewer platform in communication with the automated online broadcasting system that allows a viewer to view the broadcasted event.

Amended independent claim 8 of the Applicants' claimed invention includes a method for filming and recording an event having event participants and presenting the event to a viewer. The method includes filming and recording the event using an omni-

directional camera system to provide a seamless omni-directional image that contains each of the event participants, and automatically determining a location of the event participants in the omni-directional image by using a speaker detection technique to determine the event participants that are speaking. The method also includes tracking multiple event participants simultaneously using the speaker detection technique and a video tracking technique, and providing a user interface that allows a choice of which of the event participants in the omni-directional image to view, the choice being made by at least one of: (a) manually by the viewer; (b) automatically by a virtual director. The method further includes switching instantaneously between views of the event participants in the omni-directional image in response to the choice.

Amended independent claim 18 of the Applicants' claimed invention includes a method for displaying at least a portion of a seamless omni-directional image capturing an event occurring within an event environment. The method includes filming the event and automatically tracking multiple event participants simultaneously using audio and video processing techniques and a single omni-directional camera system having a single camera to produce the seamless omni-directional image, and transmitting the omni-directional image from a broadcasting platform to a viewer platform using a computer network. The method further includes using the viewer platform to allow a viewer to select which portion of the omni-directional image the viewer would like to view, and switching instantaneously between views of the omni-directional image by presenting a desired portion of the omni-directional image as selected by the viewer.

Amended independent claim 29 of the Applicants' claimed invention includes an automated event presentation system for capturing and viewing an event having multiple event participants. The system includes an omni-directional camera system that provides a seamless omni-directional image of the event, and a tracker module that determines a number of the multiple event participants and automatically tracks the number of multiple event participants simultaneously within the omni-directional image using audio-based tracking techniques and video-based tracking techniques combined in a probabilistic manner to obtain audio and video tracking results. The system also

includes a virtual director module that uses a probabilistic finite state machine and receives as input the audio and video tracking results to automatically select without user intervention at least a portion of the omni-directional image for use as an output view. The system further includes an automated online broadcasting system that broadcasts the output view and the omni-directional image over a computer network, and a viewer platform in communication with the automated online broadcasting system that allows a viewer to view at least one of: (a) the output view; (b) the omni-directional image.

The Applicants' claimed invention uses both audio and video tracking techniques to simultaneously track each of the event participants. This allows the presentation system and method to determine the number of meeting participants and keep track of them simultaneously (specification, paragraph 0045, lines 5-7). Different types of audio and video tracking techniques may be used, such as sound source localization, motion detection and skin color techniques (specification, paragraph 0048, lines 1-4). Using both audio and video tracking techniques allows the two techniques to cross-check each other. For example, if the audio tracking technique determines that a person is at a certain location in the meeting room, the video image can be checked at that location using video tracking techniques to verify. Moreover, if the person moves but is not speaking the video tracking technique can be used to keep track of the person (even when the person is not talking). When the person speaks again, the audio tracking technique can be used to cross-check the video tracking technique, thereby improving accuracy. Thus, the presentation system and method of claims 1, 8, 18 and 29 use both audio and video-based tracking together to track multiple event participants simultaneously to improve accuracy.

In contrast, Ippolito et al. merely disclose using an audio technique to determine the participant who is currently speaking. Ippolito et al. use a primitive microphone array that does not use sound source localization and is quite slow. Specifically, FIG. 6 of Ippolito et al. illustrates a block diagram of the electronic circuitry required for operation of the system. Audio signals from each of the eight microphones is amplified and sent to a

rectifier (col. 11, lines 20-30). This rectified audio signal is integrated to produce an averaged audio signal (col. 11, lines 30-32). The "integrating time constant of each audio signal integrator 173 is chosen so as to be appropriate for integrating the characteristics of human speech for the purposes of identifying the principle speaker from among the group of individuals participating in the local group video conference" (col. 11, lines 34-38).

Baker adds nothing to the cited combination that would render the Applicants' claimed invention obvious. Baker merely discloses an imaging system having automatic camera steering. This camera steering is used to ensure the "the participant in the conference currently speaking" is shown in the camera view (Abstract). Camera steering is achieved using a microphone array (col. 5, lines 28-32). This microphone array is used find the participant that is currently speaking and use video processing to scan the camera image to find and display that person (col. 7, lines 12-19; col. 9, lines 20-25).

In other words, while Baker does use audio and video techniques, they are not tracking techniques. Baker merely uses an audio technique to determine who is currently speaking. Next, a video technique is used to determine a location of the person currently speaking. Baker, however, is missing using audio and video tracking techniques. In Baker, once the person currently speaking ceases talking there is no subsequent tracking of that person. Moreover, Baker does not keep track of the location of the participants, only the person who is currently speaking and only at the time they are speaking.

It is not obvious to track multiple persons simultaneously given the Baker patent. Tracking multiple persons simultaneously involves a whole new set of problems compared to finding a current speaker. For example, one problem is maintaining the identity of occluded participants being tracked, such that the tracker may fail when participants get close to each other.

McCall et al. adds nothing to the cited combination of Ippolito et al. and Baker that would render the Applicants' claimed invention obvious. McCall et al. merely discloses an image-capturing device for obtaining or capturing a spherical image. In

short, McCall et al. is a capture device, but does not perform any type of tracking. Consequently, the combination of Ippolito et al., Baker and McCall et al. provides no motivation or suggestion for this claimed feature of the Applicants' claimed invention. Absent this teaching, motivation or suggestion, the combination cannot render the Applicants' claimed invention obvious (MPEP § 2143.01).

Ippolito et al., Baker and McCall et al. also both fail to appreciate or recognize the advantages of the Applicants' claimed tracking of multiple participants simultaneously using audio and video tracking techniques. As noted above, the Applicants' claimed tracking allows the presentation system and method to determine the number of meeting participants and keep track of them simultaneously (specification, paragraph 0045, lines 3-7). Unlike the combination of Ippolito et al., Baker and McCall et al., the Applicants' claimed invention tracks participants even when they are not the principle speaker, such that the location and identity of each participant is known at all times. Neither Ippolito et al., Baker nor McCall et al. appreciate these advantages of the Applicants' claimed feature.

The Applicants, therefore, submit that obviousness cannot be established since the combination of Ippolito et al., Baker and McCall et al. fail to teach, disclose, suggest or provide any motivation for the Applicants' claimed feature of using both audio and video tracking techniques to track multiple event participants simultaneously. In addition to explicitly lacking this feature, the combination also fails to implicitly disclose, suggest, or provide motivation for this feature. Further, the combination fails to appreciate advantages of this claimed feature.

Therefore, as set forth in *In re Fine* and MPEP § 2142, Ippolito et al., Baker and McCall et al., either alone or in combination, cannot render the Applicants' claimed invention obvious because the references are missing at least one material feature of the Applicants' claimed invention. Consequently, because a prima facie case of obviousness cannot be established due to the lack of "some teaching, suggestion, or incentive supporting the combination", the rejection must be withdrawn. ACS Hospital

Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984); MPEP 2143.01.

Accordingly, the Applicants respectfully submit that amended independent claims 1, 8, 18 and 29 are patentable under 35 U.S.C. § 103(a) over Ippolito et al. in view of Baker and McCall et al. based on the amendments to claims 1, 8, 18 and 29 and the legal and technical arguments set forth above and below. Moreover, claims 2-7 depend from amended independent claim 1, claims 9-13, 15, 17 and 25-27 depend from amended independent claim 8, claims 19, 20 and 28 depend from amended independent claim 18, and claim 30 depends from amended independent claim 29 and are also nonobvious over Ippolito et al. in view of Baker and McCall et al. (MPEP § 2143.03). The Applicants, therefore, respectfully request reexamination, reconsideration and withdrawal of the rejection of claims 1-9, 15-20 and 25-30.

The Office Action rejected claims 21-23 under 35 U.S.C. § 103(a) as being unpatentable over Ippolito et al. in view of McCall et al. and Baker (U.S. Patent No. 5,963,250). The Office Action contended that Ippolito et al. and McCall et al. disclose all elements of the Applicants' claimed invention except for specifically teaching "a virtual director module for determining which to the multiple camera views to display n the viewer platform by applying a set of expert production rules based at least in part on a display history of an event participant." However, the Office Action maintained that Parker et al. "discloses a system for controlling the field of view of a camera to automatically remove or add subjects from a previously share view." Therefore, the Office Action maintained that it would have been obvious to a person of ordinary skill in the art at the time the invention was made "to modify the combination of Ippolito and McCall in having the virtual director module for determining which of the multiple camera views to display on the viewer platform by applying a set of expert production rules based at least on a display history of an event participant . . . in order to provide an additional level of automation."

15 of 26

In response, the Applicants respectfully traverse these rejections based on the amendments to claim 21 and the following legal and technical analysis. In general, the Applicants submit that the combination of Ippolito et al., Baker and Parker et al. is lacking at least one element of the Applicants' claimed invention. More specifically, combination does not disclose, either explicitly or implicitly, the material claimed feature of a virtual director module within the automated online broadcasting system that uses a <u>probabilistic finite state machine</u>.

Further, the combination of Ippolito et al., McCall et al. and Parker et al. fails to appreciate the advantages of this claimed feature. In addition, there is no technical suggestion or motivation disclosed in Ippolito et al., McCall et al. and Parker et al. to define this claimed feature. Thus, the Applicants submit that the combination of Ippolito et al., McCall et al. and Parker et al. cannot make obvious the Applicants' claimed feature of a virtual director module within the automated online broadcasting system that uses a probabilistic finite state machine.

<u>Amended Independent Claim 21</u>

Amended independent claim 1 of the Applicants' claimed invention includes an automated event presentation system for capturing an event. The system includes a high-resolution omni-directional camera system that provides an omni-directional image of the event, where the omni-directional image containing multiple camera views. The system also includes an automated online broadcasting system capable of broadcasting the omni-directional image over a computer network, and a viewer platform in communication with computer network that receives the omni-directional image, and a virtual director module within the automated online broadcasting system that uses a <u>probabilistic finite state machine</u> to determine which of the multiple camera views within the omni-directional image to display on the viewer platform by applying a set of expert production rules based at least in part on a display history of an event participant.

The Applicants' claimed invention uses a probabilistic finite state machine to determine which view to display to the viewer platform. As in known to those having

ordinary skill in the art, there are two types of finite state machines (FSM). One type is a deterministic FSM, which is where the next state is uniquely determined by a single input event. In other words, given an input and the current state, the state transition can be predicted. Thus, the time evolution of the deterministic FSM can be predicted exactly.

At the other end of the spectrum is the other type of FSM, the probabilistic (or non-deterministic) FSM. The next state of the probabilistic FSM depends not only on the current input event but also on an arbitrary number of subsequent input events. Until these subsequent events occur it is impossible to determine the state of the machine. In other words, with a probabilistic FSM, given the current state it is impossible to predict the state transition.

In the Applicants' claimed invention, a probabilistic FSM is used to determine the expert video production rules. For example, one such expert video production rule determines which camera view is an output camera view. Other examples of expert video production rules are found in the Applicants' specification (paragraph 0051 and paragraph 0052). These expert production rules include keeping the camera view on a person even if another person begins talking if the camera has only been on the first person for a short amount of time (specification, paragraph 0051). In addition, these rules include switching the camera view off a person who is talking if that person has been talking for a long period of time (specification, paragraph 0052). By using a probabilistic FSM, the Applicants' claimed invention ensures that events (such as to which person to switch the camera view) are randomly determined.

In contrast, the rules in Parker et al. are deterministic. For example, if no participants have been speaking for a pre-determined amount of time, then a group shot is displayed (col. 9, lines 44-47). Likewise, if a group shot is displayed and a person begins speaking for more than a pre-determined length of time, that person speaking is displayed (col. 9, lines 48-54). These are deterministic rules.

Contrast the deterministic rules of Parker et al. with the Applicants' claimed virtual

director rules determined by a probabilistic finite state machine. In particular, one virtual director rules states that if the camera has been on the same person for a longer than a specified amount of time, then randomly switch to one of the other people for a short duration (e.g., 5 seconds), and switch back to the talking person, if he/she is still talking (specification, paragraph 0052, lines 1-3). While the rules of Parker et al. are deterministic, the Applicants' claimed virtual director rules are probabilistic.

Consequently, no motivation or suggestion for this feature of the Applicants' claimed invention is provided. Absent this motivation or suggestion, the combination of Ippolito et al., McCall et al. and Parker et al. cannot render the Applicants' claimed invention obvious (MPEP § 2143.01).

Ippolito et al., McCall et al. and Parker et al. also both fail to appreciate or recognize the advantages of the Applicants' claimed virtual director module within the automated online broadcasting system that uses a probabilistic finite state machine. The Applicants' claimed probabilistic finite state machine provides "a flexible control framework" such that the "parameters to the rules above are easily changeable, plus many of the parameters are sampled from distributions" (specification, paragraph 0053, lines 1-4). This results in better, more realistic presentations because the virtual director "does not seem mechanical to the human viewers" (specification, paragraph 0053, lines 4-5). The combination of Ippolito et al., McCall et al. and Parker et al. does not discuss or appreciate these advantages of the Applicants' claimed feature.

The Applicants, therefore, submit that obviousness cannot be established since the combination of Ippolito et al., McCall et al. and Parker et al. fail to teach, disclose, suggest or provide any motivation for the Applicants' claimed feature of a virtual director module within the automated online broadcasting system that uses a probabilistic finite state machine. In addition to explicitly lacking this feature, the combination also fails to implicitly disclose, suggest, or provide motivation for this feature. Further, the combination fails to appreciate advantages of this claimed feature.

Therefore, as set forth in *In re Fine* and MPEP § 2142, Ippolito et al., McCall et al. and Parker et al., either alone or in combination, cannot render the Applicants' claimed invention obvious because the references are missing at least one material feature of the Applicants' claimed invention. Consequently, because a prima facie case of obviousness cannot be established due to the lack of "some teaching, suggestion, or incentive supporting the combination", the rejection must be withdrawn. ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984); MPEP 2143.01.

Accordingly, the Applicants respectfully submit that amended independent claim 21 is patentable under 35 U.S.C. § 103(a) over Ippolito et al. in view of McCall et al. and Parker et al. based on the amendments to claim 21 and the legal and technical arguments set forth above and below. Moreover, claims 22-24 depend from amended independent claim 21 and are also nonobvious over Ippolito et al. in view of McCall et al. and Parker et al. (MPEP § 2143.03). The Applicants, therefore, respectfully request reexamination, reconsideration and withdrawal of the rejection of claims 21-23.

The Office Action rejected claims 10-13 under 35 U.S.C. § 103(a) as being unpatentable over Ippolito et al. in view of Baker and McCall et al. as applied to claim 8, and further in view of Kannes (U.S. Patent No. 5,382,972). The Office Action contended that the combination of Ippolito et al., Baker and McCall et al. disclose or suggest most of the elements of the Applicants' claimed invention except that the combination "differs from the claimed invention in not specifically teaching to store annotation associated with the event and synchronizing this annotations with the event for allowing the view to select which of the annotation to store while the event is occurring or after the event occurring." (sic) However, the Office Action maintained that Kannes teaches this feature. Thus, the Office Action contended that "it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of Ippolito et al. and McCall et al. in storing annotation associated with the event and synchronizing this

annotations with the event." (sic)

In response, the Applicants respectfully traverse this rejection based on the legal and technical analysis above and below. The Applicants submit that the combination of Ippolito et al., Baker, McCall et al. and Kannes lacks at least one claimed feature of the Applicants' invention. In particular, the combination does not disclose, either explicitly or implicitly, the material claimed feature of using both audio and video tracking techniques to track multiple event participants simultaneously. Further, the combination also fails to appreciate the advantages of this claimed feature. In addition, there is no technical suggestion or motivation disclosed in Ippolito et al., Baker, McCall et al. or Kannes to define this claimed feature. Thus, the Applicants submit that the combination of Ippolito et al., Baker, McCall et al. and Kannes cannot make obvious the Applicants' claimed feature of using both audio and video tracking techniques to track multiple event participants simultaneously.

As noted above, amended independent claim 8 of the Applicants' claimed invention includes a method for filming and recording an event having event participants and presenting the event to a viewer. The method includes filming and recording the event using an omni-directional camera system to provide a seamless omni-directional image that contains each of the event participants, automatically determining a location of the event participants in the omni-directional image by using a speaker detection technique to determine the event participants that are speaking, and tracking multiple event participants simultaneously using the speaker detection technique and a video tracking technique. The method further includes providing a user interface that allows a choice of which of the event participants in the omni-directional image to view, the choice being made by at least one of: (a) manually by the viewer; (b) automatically by a virtual director, and switching instantaneously between views of the event participants in the omni-directional image in response to the choice.

In contrast, as noted above, the combination of Ippolito et al., Baker and McCall et al. merely disclose a method that uses audio to determine who is currently speaking and

video processing to find that person in an image. Unlike the Applicants' claimed invention, however, audio and video tracking of multiple participants simultaneously is not disclosed. In addition, Kannes adds nothing to the cited combination that would render the Applicants' claimed invention obvious. Kannes merely uses a simplistic rule that selects a camera based on which event participant is currently speaking.

Consequently, the combination of Ippolito et al., Baker, McCall et al. and Kannes provides no motivation or suggestion for this claimed feature of the Applicants' claimed invention. Absent this teaching, motivation or suggestion, the combination cannot render the Applicants' claimed invention obvious (MPEP § 2143.01).

The combination of Ippolito et al., Baker, McCall et al. and Kannes also fails to appreciate or recognize the advantages of the Applicants' claimed feature of using both audio and video tracking techniques to track multiple event participants simultaneously. The Applicants' claimed tracking allows the presentation system and method to determine the number of meeting participants and keep track of them simultaneously (specification, paragraph 0045, lines 3-7). Unlike the combination of Ippolito et al., Baker, McCall et al. and Kannes, the Applicants' claimed invention tracks participants even when they are not the principle speaker, such that the location and identity of each participant is known at all times. Neither Ippolito et al., Baker, McCall et al. nor Kannes appreciate these advantages of the Applicants' claimed feature.

The Applicants, therefore, submit that obviousness cannot be established since the combination of Ippolito et al., Baker, McCall et al. and Kannes fails to teach, disclose, suggest or provide any motivation for the Applicants' claimed feature of using both audio and video tracking techniques to track multiple event participants simultaneously. In addition to explicitly lacking this feature, the combination also fails to implicitly disclose, suggest, or provide motivation for this feature. Further, the combination fails to appreciate advantages of this claimed feature.

Therefore, as set forth in *In re Fine* and MPEP § 2142, Ippolito et al., Baker, McCall et al. and Kannes, either alone or in combination, cannot render the Applicants' claimed invention obvious because the references are missing at least one material feature of the Applicants' claimed invention. Consequently, because a prima facie case of obviousness cannot be established due to the lack of "some teaching, suggestion, or incentive supporting the combination", the rejection must be withdrawn. ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984); MPEP 2143.01.

Accordingly, the Applicants respectfully submit that amended independent claim 8 is patentable under 35 U.S.C. § 103(a) over Ippolito et al. in view of Baker and McCall et al. as applied to claim 8, and further in view of Kannes, based on the amendments to claim 8 and the legal and technical arguments set forth above. Moreover, claims 10-13 depend from independent claim 8 and are also nonobvious over Ippolito et al. in view of Baker and McCall et al. as applied to claim 8, and further in view of Kannes (MPEP § 2143.03). The Applicants, therefore, respectfully request reexamination, reconsideration and withdrawal of the rejection of claims 10-13.

The Office Action rejected claim 24 under 35 U.S.C. § 103(a) as being unpatentable over Ippolito et al. in view of McCall et al. and Parker et al. as applied to claim 21 and further in view of Bruno et al. (U.S. Patent No. 5,710,591). The Office Action contended that the combination of Ippolito et al., McCall et al. and Parker et al. disclose or suggest most of the elements of the Applicants' claimed invention except that the combination "differs from the claimed invention in not specifically teaching to provide negative switching that allows switching to a camera view of a person speaking before [he] begins to speak." However, the Office Action maintained that Bruno et al. teach this feature. Thus, the Office Action contended that "it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of Ippolito et al. and McCall et al. in switching to a camera view of a person speaking before

[he] begins to speak, as per teaching of Bruno, because it makes user friendly for subsequent retrieval and processing."

In response, the Applicants respectfully traverse this rejection based on the amendments to claim 21 and the legal and technical analysis above and below. The Applicants submit that the combination of Ippolito et al., McCall et al., Parker et al. and Bruno et al. lacks at least one claimed feature of the Applicants' invention. In particular, in addition to lacking the claimed features argued above with regard to claim 21, the combination of Ippolito et al., McCall et al., Parker et al. and Bruno et al. does not disclose, either explicitly or implicitly, the material claimed feature of a switching module capable of providing negative switching that allows switching to a camera view of a person speaking before the person begins to speak.

Further, the combination of Ippolito et al., McCall et al., Parker et al. and Bruno et al. fails to appreciate the advantages of this claimed feature. In addition, there is no technical suggestion or motivation disclosed in the combination to define this claimed feature. Thus, the Applicants submit that the combination of Ippolito et al., McCall et al., Parker et al. and Bruno et al. cannot make obvious the Applicants' claimed feature.

Dependent Claim 24

Claim 24 of the Applicants' invention includes a switching module that is capable of providing *negative* switching. This negative switching allows the switching to a camera view of a person speaking before that person begins to speak. In other words, before a person begins to speak the camera view shows that person that will speak.

This negative switching can only be performed on recorded (or on-demand) broadcasts. In particular, "for the recorded meeting it is even possible to achieve camera switching in negative time (*or negative switching*). In other words, the camera view changes from the person talking to the person that will talk next even before the next person starts talking" (specification, paragraph 0054, lines 19-22; emphasis added).

23 of 26

In contrast, the combination of Ippolito et al., McCall et al., Parker et al. and Bruno et al. fails to disclose or suggest this claimed feature of the Applicants' invention. The Office Action maintained that Bruno et al. show this claimed feature at column 4, line 62 through column 5, line 7. The Applicants respectfully disagree. In these passages, Bruno et al. disclose a "voice-activated switching mode" for "controlling the video signal" (col. 4, lines 62-63). In this embodiment of Bruno et al., a control unit (MCU) "will display the image of the loudest speaking user/conferee on each of the other users' workstations" (col. 4, lines 64-65). In addition, an "image of the previous speaker's location will be displayed on the current speaker's screen" (col. 4, lines 65-67). Thus, the current speaker has displayed on his screen an image of the previous speaker while the other users have displayed on their screens an image of the current speaker.

In another embodiment, Bruno et al. disclose a "voice-activated switching mode" where the "MCU switches the video signal from the current speaker's location only when that speaker [i.e., the current speaker] stops talking" (col. 5, lines 1-3). In other words, "the MCU will change the video display only after the current speakers stops talking and a new speaker begins talking" (col. 5, lines 3-5).

Neither of these embodiments of Bruno et al. disclose or suggest the Applicants' claimed negative switching. Bruno et al. use voice-activated switching. In other words, *only after a person's voice is detected* does the MCU switch to that current speaker. Because it is voice-activated, it is *impossible* for the MCU to switch views before it is activated by a voice. The Applicants respectfully request further clarification about the Examiner's reasoning as to how the Bruno et al. disclose the Applicants' claimed negative switching.

In addition to lacking this claimed feature of the Applicants' invention, the combination of Ippolito et al., McCall et al., Parker et al. and Bruno et al. also fails to appreciate or recognize the advantages of the Applicants' claimed feature of the

switching module including negative switching. Specifically, the Applicants' claimed switching module including negative switching "allows a camera view to be switched without delay. Even a short delay between the time when a person begins speaking and the time when the camera view shows the speaker can be quite distracting to a viewer. This camera switching latency can distract the viewer to the point that the viewer has a negative viewing experience" (specification, paragraph 0054, lines 2-5). The combination of Ippolito et al., McCall et al. and Bruno et al. does not discuss or appreciate these advantages of the Applicants' claimed feature of a switching module capable of providing negative switching.

Therefore, as set forth in *In re Fine* and MPEP § 2142, the combination of Ippolito et al., McCall et al., Parker et al. and Bruno et al. simply cannot render the Applicants' claimed invention obvious. Consequently, because a prima facie case of obviousness cannot be established due to the lack of "some teaching, suggestion, or incentive", the rejection must be withdrawn. MPEP 2143.01; ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984).

Accordingly, the Applicants respectfully submit that independent claim 24 is patentable under 35 U.S.C. § 103(a) over Ippolito et al. in view of McCall et al. and Parker et al. as applied to claim 21 and further in view of Bruno et al. based on the amendments to claim 21 and the legal and technical arguments set forth above. The Applicants, therefore, respectfully request reexamination, reconsideration and withdrawal of the rejection of claim 24 under 35 U.S.C. § 103(a) as being unpatentable over Ippolito et al. in view of McCall et al. and Parker et al. as applied to claim 21 and further in view of Bruno et al..

Conclusion

In view of the amendments to claims 1, 8, 18, 21 and 29 and the arguments set forth above, the Applicants submit that claims 1-13, 15 and 17-30 are in condition for immediate allowance. The Examiner, therefore, is respectfully requested to withdraw .
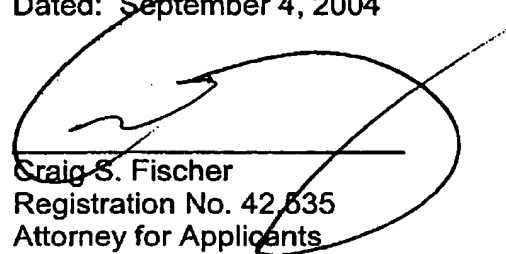
the outstanding rejections of the claims and to pass all of the claims of this application to issue.

In an effort to expedite and further the prosecution of the subject application, the Applicants kindly invite the Examiner to telephone the Applicants' attorney at (805) 278-8855 if the Examiner has any comments, questions or concerns, wishes to discuss any aspect of the prosecution of this application, or desires any degree of clarification of this response.

Respectfully submitted,
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Craig S. Fischer
Registration No. 42,635
Attorney for Applicants

LYON & HARR, L.L.P.
300 East Esplanade Drive, Suite 800
Oxnard, CA 93030-1274
Tel: (805) 278-8855
Fax: (805) 278-8064